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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,113	05/09/2001	Shinichi Kanna	Q64410	2319

7590 09/24/2002

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EXAMINER

ASHTON, ROSEMARY E

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,113

Applicant(s)

KANNA ET AL.

Examiner

Rosemary E. Ashton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on August 24, 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,8 and 10-15 is/are rejected.
- 7) ☒ Claim(s) 6 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

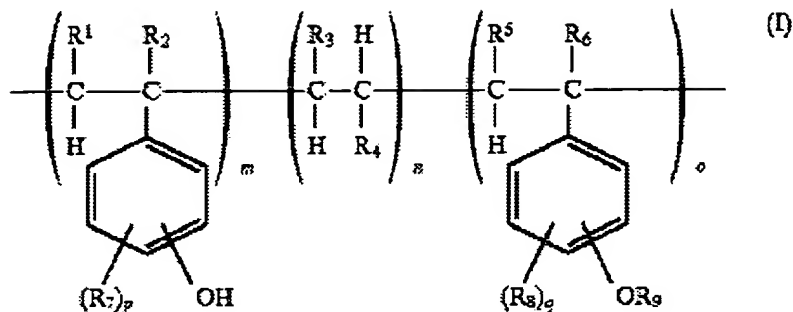
2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. ¹⁵ Claims 1-5, 7, 8, 10-~~12~~ are rejected under 35 U.S.C. 103(a) as being unpatentable over Padmanaban et al U.S. patent no. 5,852,128 in view of Urano et al U.S. patent no. 5,627,006.

Padmanaban teaches a positive resist composition comprising a resin, a solvent, triphenylsulfonium acetate and triphenylsulfonium triflate (see examples). The resin of formula I has a phenolic hydroxy group blocked with R9 as shown below.

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R_9 is represented by formula II



Wherein

R_{11} presents a linear or branched alkylene group with 2 to 6 carbon atoms,

X represents a direct bond, or a $-\text{C}(\text{O})-$, $-\text{C}(\text{O})\text{O}-$, $-\text{S}(\text{O}_2)-$, $-\text{C}(\text{O})\text{NH}-$ or $-\text{C}(\text{S})\text{NH}-$ group and

R_{12} represents a linear, branched, or cyclic alkyl group with 1 to 6 carbon atoms, a substituted alkyl group with 1 to 6 carbon atoms, an aryl group with 6 to 10 carbon atoms, a substituted aryl group with 6 to 10 carbon atoms, or an alkaryl group with 7 to 10 carbon atoms.

R9 meets the limitations of applicant's claim 4 when R11 is an alkylene group with 2 to 4 carbons, X is a direct bond and R12 is cyclic alkyl group or an aryl group. The resin has a Mw in the range of 5000 to 30,000 such as 15,000 as in claim 14 (col. 6, lines 13-33) and a degree of protection of the hydroxyl phenolic groups of 30 mol % as in claim 13 (col. 6, lines 21-33).

The amount of triphenylsulfonium triflate (b') in example 10 is 3 wt % of the solids as claimed.

Padmanaban does not teach the composition contains a surfactant as in claims 1 and 15.

The use of a surfactant in a photoresist composition is not novel. Photoresist patents typically include a paragraph of additional additives which include adding a surfactant to the

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composition. Such a statement is shown in col. 8, lines 10-14 of Urano which states additives such as dyes or surfactants may be added to the resist material comprising a resin, a carboxylic acid generating photoacid generator and solvent.

Thus, it would have been obvious to one of ordinary skill in the art to add a surfactant to the composition of Padmanaban with a reasonable expectation of obtaining a photoresist composition that does not produce standing waves because the addition of a surfactant is well known in the art (col. 2, lines 35-39).

The examiner takes official notice that surfactants comprising fluorine or silicon atoms are well known in the art and thus obvious to one of ordinary skill in the art.

Allowable Subject Matter

4. Claims 6 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach the composition has a basic compound or the amount of (b) in the range claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosemary E. Ashton whose telephone number is 308-2057. The examiner works a flexible work schedule and can normally be reached M-F between 10:00 am and 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Baxter can be reached on 308-2303. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.



Rosemary E. Ashton
Primary Examiner
Art Unit 1752

rea
September 23, 2002

ROSEMARY ASHTON
PRIMARY EXAMINER